Group Members:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Stations on Equations of Lines Group Checklist

|  |  |  |
| --- | --- | --- |
| Station 1 | Yes | No |
| Did you correct the errors in Question 1? |  |  |
| Did you correct the errors in Question 2? |  |  |
| Did you correct the errors in Question 3? |  |  |
| Did you correct the errors in Question 4? |  |  |
| Did you correct the errors in Question 5? |  |  |
| Did you justify your corrections? |  |  |

Station 2

Did you match the equation and answer? Yes or No

Did you get your teacher to sign off on your work? Teacher Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Station 3

Did you match the equation and answer? Yes or No

Did you get your teacher to sign off on your work? Teacher Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Station 4 Forget the Formula**

Mrs. Howell, your science teacher, overheard two of her students talking about how to convert temperatures from Celsius to Fahrenheit and vice versa. The students said they knew there was a formula, but they did not remember what it was. Mrs. Howell remarked to you that if they just knew about the freezing point and boiling point of water for each temperature scale, the formula could easily be “rediscovered.” Mrs. Howell has asked you to write a written explanation for how to find the formula, showing all your calculations. Mrs. Howell also wants you to include an explanation of each of the parts of the formula. (Don’t forget to include the formula for Celsius to Fahrenheit and the formula for Fahrenheit to Celsius.)

1. Did you write a written explanation for how to find the formula, showing all your calculations? Yes or No
2. Did you include an explanation of each of the parts of the formula? Yes or No
3. Did you include the formula for Celsius to Fahrenheit and the formula for Fahrenheit to Celsius? Yes or No

**Station 5 Cara’s Candles Revisited**

Cara likes candles. She also likes mathematics and was thinking about using algebra to answer a question that she had about two of her candles. Her taller candle is 16 centimeters tall. Each hour it burns makes the candle lose 2.5 centimeters in height. Her short candle is 12 centimeters tall and loses 1.5 centimeters in height for each hour that it burns.

Cara started filling out the following table to help determine whether these two candles would ever reach the same height at the same time if allowed to burn the same length of time. Finish the table for Cara. Use the data in the table to determine what time the two candles will be at the same height.

Did you finish the table? Yes or No

Did you determine what time the candles will be the same height? Yes or No

Also, she wants to know what height the two candles would be at that time. If it is not possible, she wants to know why it could not happen and what would need to be true in order for them to be able to reach the same height. To help Cara understand what you are doing, justify your results. Explain your thinking using the table and create a graphical representation of the situation.

Did you justify your results?

Did you explain your thinking?

Did you create a graphical representation of the situation?

|  |  |  |
| --- | --- | --- |
| Time (hours) | 16 cm candle  height (cm) | 12 cm candle  height (cm) |
| 0 | 16 | 12 |
| 1 | 13.5 | 10.5 |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| 6 |  |  |
| 7 |  |  |

Using the table, write an equation for the height of each candle in terms of the number of hours it has burned. Be sure to include any constraints for the equation.

Did you write the equation? Yes or No

Did you include constraints? Yes or No

Cara has another candle that is 15 cm tall. How fast must it burn in order to also be 6 cm tall after 4 hours? Explain your thinking.

Did you answer the question? Yes or No

Did you explain your thinking? Yes or No

If Cara had a candle that burned 3 cm every hour, how tall would it need to be to also reach the same height as the other three candles after 4 hours? Explain your thinking.

Did you answer the question? Yes or No

Did you explain your thinking? Yes or No